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Transport Properties of BaRuO₃ Films*

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Ternary ruthenates have attracted much attention due to their intriguing electronic properties which give rise, among others, to exotic p-wave superconductivity (Sr₂RuO₄), itinerant ferromagnetism with intriguing characteristics (SrRuO₃), and itinerant antiferromagnetism (Ca₃Ru₂O₇). While many of the Ruddlesden-Popper series of Sr_{n+1}Ru_nO_{3n+1} and Ca_{n+1}Ru_nO_{3n+1} ($n=1,2,3$ and infinity) have been extensively studied, very little is known about the transport properties of BaRuO₃ whose structure belong to the "hexagonal" perovskite family. Here, we present transport and magnetotransport measurements of epitaxial thin films of *c*-axis oriented four-layered hexagonal BaRuO₃ and discuss possible interpretations of our results.

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